*IN THE UNITED STATES PATENT AND TRADEMARK OFFICE*

In re Patent application of       :

Jae-yoon SIM et al.       :       Group Art Unit 2631

Serial No. 09/542,042       :       Examiner Pankaj Kumar

Filed March 31, 2000       :

HIGH FREQUENCY EQUALIZER USING DEMULTIPLEXING TECHNIQUE AND RELATED SEMICONDUCTOR DEVICE

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# REQUEST FOR RECONSIDERATION
# AFTER FINAL

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Sir:

This is in response to the final Office action of January 9, 2004.

### *Allowable Claims*

Applicants acknowledge with thanks the indicated allowability of Claims 1-10 and 13-22.

### *35 U.S.C. ¶102*

Claims 11 and 12 were rejected under 35 U.S.C. ¶102 as being anticipated by Zhung et al. (US 5875007) for the reasons stated at pages 3-4 of the Office Action.

However, Applicants again contend that Claims 11 and 12 are not anticipated by Zhung et al., and in view of the following representations, reconsideration of the rejection under 35 U.S.C. ¶102 is requested.

As noted in Applicant's previous response, the mere fact that the output of reference number 13 of Zhung of a higher frequency than that of reference number 12 does not mean that lost high frequency components have somehow been restored. Rather, reference number 13 of Zhung is a <u>multiplexer</u> for multiplexing overhead data and the 6.5 Mb/s signals from reference number 12. No restoration of high frequency components takes place. In the final Office Action, the Examiner responds as follows:

> *As per applicant's argument about restoring lost high frequency components, an original signal is at the speed of light. Then its speed is decreased to 6.5 MHz. Then the multiplexer restores some of the speed and hence some of the high frequency components by increasing the speed to 20.1312 MHz."*

Respectfully, the Examiner's comments are not at all understood, and clarification is therefore requested.

First, the Examiner seems to be saying that speed is measured in units of MHz, i.e., a 6.5 MHz signal travels at a slower "speed" than a 20.1312 MHz signal. This is clearly erroneous. All electromagnetic signals (including light) travel at the same speed regardless of frequency.

Second, even if the Examiner's statement were scientifically sound, there would still be no restoration of lost high frequency components <u>of the demultiplexed data input items</u> as recited in claim 11.

As also pointed out in Applicant's previous response, reference number 31 of Fig. 3 of Zhung et al. denotes the 8-bit header of each 808-bit frame of data contained in a 6.5 Mb/s signal. Reference numbers 32, 33, 36 and 37 denote payload, channel ID, CRC, and tail information, respectively, of the same frame of data. Col. 4, lines 13-27. The header 31 is not demultiplexed into the payload 32, channel ID 33, CRC 36 and tail 37 as apparently suggested by the Examiner. In the final Office Action, the Examiner responds as follows:

> *"As per applicant's argument about demultiplexing, channel id, CRC and tail are all three packed or multiplexed within on packet since multiple data items are put together in one packet which is identifiable by the packet header. When a process retrieves the packet header, it can then retrieve data items like the channel id, CRC and tail contained within that same packet. Hence, during retrieval, the opposite of packing occurs and hence the opposite of multiplexing and hence demultiplexing occurs."*

Respectfully, the Examiner's comments are again not at all understood, and clarification is therefore requested.

First, it is notoriously well known in the art that multiplexing is generally characterized by transmission of plural signals on a single carrier or channel. The Examiner's apparent suggestion that "multiplexing" includes the packing of individual bit segments within a single signal frame is completely contrary to the accepted meaning of "multiplexing" as it is used in the art. Likewise, unpacking of bit segments within a single bit frame is not demultiplexing.

Second, the Examiner has not explained where in Zhung the "process retrieves the packet header", especially in the context of the Examiner's original rejection. Just because the packet header is capable of retrieval does not mean that limitations of claim 11 have been met.

In summary, Applicant's are having substantial difficulties in understanding the Examiner's rational for rejecting claims 11 and 12 in view of the teachings of Zhung. As such, the Examiner is kindly asked to telephone the undersigned for clarification if the Examiner believes that the rejection has been misinterpreted or misunderstood in any way.

No other issues remaining, reconsideration and favorable action upon all of the Claims 1-22 now pending in the application are requested.

Respectfully submitted,

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